



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,593	10/10/2003	Govind Rangaswamy Kadambi	38105.0151	2592
26582	7590	08/16/2005	EXAMINER	
HOLLAND & HART, LLP			CAO, HUEDUNG X	
555 17TH STREET, SUITE 3200				
DENVER, CO 80201			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/605,593	<b>Applicant(s)</b> KADAMBI ET AL.	
	<b>Examiner</b> Huedung X. Cao	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,20-24,27,28 and 32 is/are rejected.  
7) ☒ Claim(s) 3-19,25,26 and 29-31 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/10/03, 03/11/05 *HE*  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ground plane, the side walls, radiating edge, and metal element must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 21-24, and 27-28 are rejected under 35 U.S.C. 102(e) as being anticipated by ANNAMAA et al. (US 6380905 B1).

As per claim 1, and a similar claim 21, Annamaa teaches the claimed “an antenna” comprising:

a ground plane (Annamaa, figure 1, ground plane 120);

a radiating element spaced above said ground plane (Annamaa, figure 1, radiating element 110 spaced above ground plane 120);

a slot having side walls formed in said radiating element (Annamaa, figure 1, slot 150); and

an extension of said radiating element within said slot and out of physical contact with said side walls (Annamaa, figure 1).

As per claim 2 and a similar claim 24, wherein a portion of said extension is located in a space between said radiating element and said ground plane see Annamma, figure 1.

Art Unit: 2821

As per claim 22, Annamaa teaches the metal element is connected to the ground plane with shorting conductor 102 in figure 1.

As per claim 23 and similar claim 28, Annamaa teaches the ground plane and said radiating element are planar members that extend generally parallel to each other, and wherein at least a portion of said metal element is generally coplanar with said radiating element (Annamaa, figure 1, radiating 110 parallel to ground plane 120).

As per claim 27, Annamaa teaches the metal element is connected to said radiating element (Annamaa, figure 1, metal element A1 connects to radiating element 110).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANNAMAA et al. (US 6380905 B1) in view of CHOO et al. (US 2004/0001021 A1).

As per claim 20 and a similar claim 32, wherein said antenna is a planar antenna selected from the group microstrip antenna and planar inverted-F antenna which Annamaa does not explicitly teach. However, Choo teaches such antenna is a planar antenna is well known in the art (Choo, paragraph [0081]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a planar

Art Unit: 2821

antenna from the group of microstrip antenna and planar inverted-F antenna, as taught by Choo for multi-band operation with miniaturized antenna size.

***Allowable Subject Matter***

6. Claims 3-19, and 25-26, and 29-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art fail to teach a shorting post connecting said radiating element to said ground plane an edge on said radiating element ; said slot having an open end located on said edge and having a closed end located within said radiating element; said extension having a first end connected to said radiating element and located generally adjacent to said open end of said slot; and said extension having a second end located generally adjacent to said closed end of said slot.

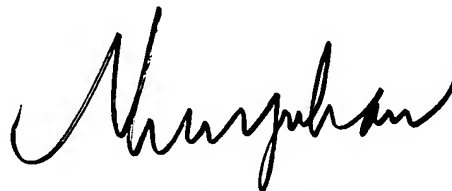
***Inquiries***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao  
Patent Examiner

A handwritten signature in black ink, appearing to read 'Thuy V. Tran', with a stylized, cursive script.

**THUY V. TRAN  
PRIMARY EXAMINER**